77 02221

OPEN SPACE ELEMENT

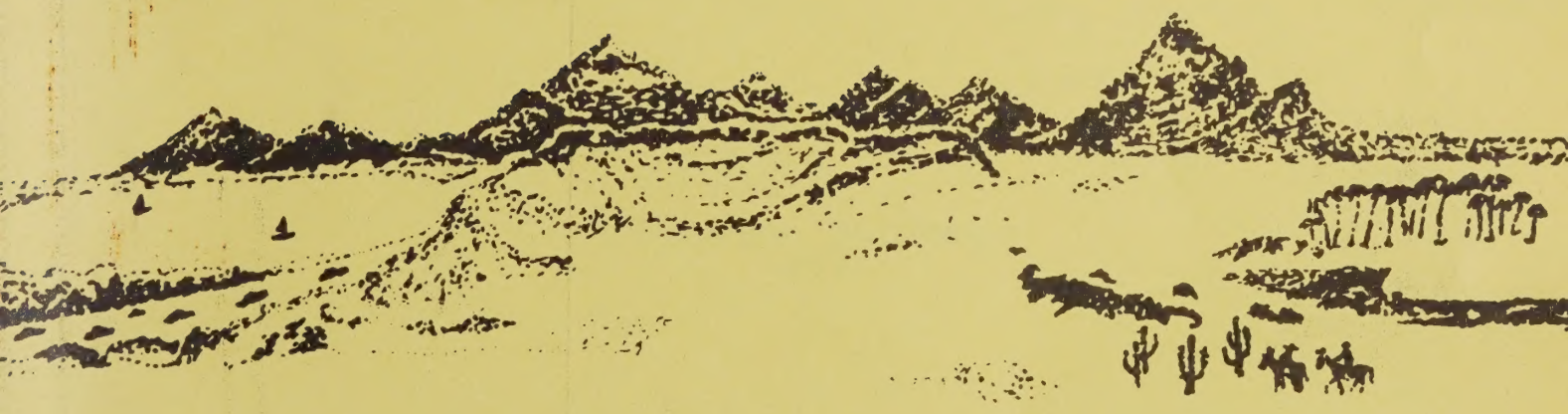
of The

INSTITUTE OF GOVERNMENTAL
STUDIES LIBRARY

JUN 22 1977

UNIVERSITY OF CALIFORNIA

RIDGECREST GENERAL PLAN



Kern County, California

OS·8

June 1973

OPEN SPACE

AN ELEMENT OF THE

CITY OF RIDGECREST

GENERAL PLAN

City planning Ridgecrest
Land utili. "

Ridgecrest, California
1973

Prepared by the Ridgecrest Citizen's Advisory Committee on Open Space in Cooperation with the Kern County Council of Government - KernCOG - and the Ridgecrest Planning Commission and Staff.

77 02221

INSTITUTE OF GOVERNMENTAL STUDIES LIBRARY
109 PHILOSOPHY HALL
UNIVERSITY OF CALIFORNIA
BERKELEY, CA 94720

City Council:

Kenneth M. Smith, Mayor
J. Elliott Fox, Vice-Mayor
Dr. Rex E. Shacklett
Dennis J. Wilson
Clarence W. Mettenberg

Planning Commission

Gray L. Rager, Chairman
Roger D. Loewen, Vice-Chairman
Florence Green
Edward H. Larosche
Lynne Thompson

Citizen's Advisory Committee

Lynne Thompson, Chairman
Carol Panlaqui
Kristin Berry
Mary Witcher
Lisa Webster
Bill Duncan
Dean Karlberg
Ruth Schulyer

Staff:

Joseph L. Cloonan, Planning Director
Ronald E. Brummett, Assistant Planner
Elsie Alger, Clerk

The preparation of this document was financed in part through a comprehensive planning grant from the U. S. Department of Housing and Urban Development under the provisions of Section 701 of the Housing Act of 1954, as amended, and through the auspicies of the Council on Intergovernmental Relations of the State of California.

ABSTRACT

TITLE:	Open-Space an Element of the City of Ridgecrest General Plan
AUTHOR:	Citizen's Advisory Committee in Cooperation with Kern County and the City of Ridgecrest Planning Staff.
SUBJECT:	Plan for Open-Space Land Use
DATE:	October 4, 1973
LOCAL PLANNING AGENCY:	City of Ridgecrest Planning Commission
SOURCE OF COPIES:	City of Ridgecrest Planning Commission Ridgecrest, California 93555
HUD/CIR PROJECT NO.	UPA/1020.07
NO. OF PAGES:	57 Plus Maps

ABSTRACT: This booklet describes goals, policies, and implementation plans for the Open Space Program

It was prepared in order to:

- Increase public awareness, interest, and participation in open space.
- Relate how the open space affects the conditions in which the people of the city live.
- Propose the framework for specialized uses of open space--the achievement of which must come through special citizen action programs.
- Stress the importance of the inter-relationship between open space and the social, economic, and physical conditions of the city.

Open space programs are developed not only through a wide variety of special action groups, but through many phases of the cities adopted Comprehensive General Plan.

The land use element designates open space; so does the circulation plan of roads, as does the zoning ordinance. The selection of a school site, a park site, or a wildlife habitat, results in a major contribution to open space.

In this plan a functional relationship between the region's open space system to the life-styles, to the land use structure, and to the broader natural environment seting is stated in both graphic and written form.

The goals, the opportunities, and the concepts stated in this element of the City's general plan apply to each of the specific action programs.

Application will vary with the nature of the different components, as well as economic reality expressed in the capability of the citizens of the City, to shoulder the financial burden.

The Element was adopted by the Ridgecrest Planning Commission on July 2, 1973.

Resolution No. 73-78.

The Element was adopted by the Ridgecrest City Council on October 4, 1973.

Resolution No. 537.

Digitized by the Internet Archive
in 2025 with funding from
State of California and California State Library

https://archive.org/details/C123320655

TABLE OF
CONTENTS

INTRODUCTION

State law currently requires that all cities and counties must prepare and adopt a local open-space plan for the comprehensive and long-range preservation and conservation of open-space land within its jurisdiction. Included in such plans must be an action program consisting of specific programs which the legislative body intends to pursue in implementing its open-space plan. In addition, all cities and counties must adopt an open-space zoning ordinance consistent with the adopted open-space plan.

The need for systematic planning cannot be disputed. The problems that have developed in the past and are constantly developing in our urban society may require additional restrictions on the use and occupation of private lands in urban communities. Certainly,there are many areas wherein individuals profit by yielding certain of their rights to the authority of the community because of total returns to the community are thereby increased and each individual shares in an improved and greater community.

Unnecessary conversion of open-space land to urban uses is a matter of public interest. Planning will be of benefit to urban dwellers because it will discourage noncontiguous development patterns which unnecessarily increase the costs of community services to community residents. The anticipated increase in the population of the state demands that cities, at the earliest possible date, make definite plans for the preservation of valuable land and take positive action to carry out such plans by the adoption and strict administration of laws, ordinances, rules and regulations as authorized by this chapter, or by other appropriate methods.

It has been clearly established through expressions of intent by the legislative bodies at the federal, state and county levels, that a mandate to local governments has been made to adopt and implement comprehensive plans to preserve open-space lands.

A few years ago, a standard legal response to a question concerning the effect of a general plan and its related parts was that such a plan was merely a general statement of possible future policy directions of the city, but that it carried little, if any, specific legal effect. Such an answer would no longer be either accurate or possible. Today the general plan of a city has serious legal implications--implications arising out of state law, out of federal administratitive requirements and out of the new stature of

the general plan as a viable part of the municipal planning and zoning function. In some cases--such as open-space consideration--specific planning and zoning implementation is required of municipalities and in all cases, it is contemplated that zoning and special plans will be consistent with the general plan provisions.

It is certain that there is no guarantee to any owner or potential owner of property of having land zoned to what that particular owner or potential owner may consider to be its highest and best economic use. The welfare of all the citizens of the state--not just for the present brief moment in time, but with a view to the future--greatly outweighs the interests of any private developer. The context in which the highest and best use of specific land is to be determined is that of the entire municipality. In a legal sense, any loss incurred by an individual as the result of a valid zoning action is part of the price one must pay for living in a society.

Under all the facts, it is our opinion that the open-space plan and the zoning consistent with and designed to implement the proposed open-space plan are both legally sound within the scope of the power of the City Council and susceptible to adoption by the City.

OPEN SPACE DEFINED

The Seventies will be memorably marked as years when men recognized that the multiple benefits of open-space are of paramount importance and, as a result, began to restore the balance between himself and his institutions on the one hand and his natural environment on the other. Despite this recognition, past efforts to preserve land in open-space uses often fail. The following three reasons have contributed to this failure:

- Misuse or lack of understanding of the term "Open-Space."
- Wrong choice of the method selected for keeping the land open.
- Financial gain which a capitalistic economy affords speculators and promoters.

Because open-space is a term that means many things to many people, we often become confused in planning for the location, acquisition, and maintenance of land in various categories of open-space uses.

Because the wrong methods are used and proponents neglect to stress or even mention less obvious reasons for keeping land in open-space uses, programs have failed.

Therefore, the following definition is given:

<u>Open space can be defined by its function</u>:

- That of serving esthetics
- That of air and water management
- That of providing mental and emotional well-being
- That of noise reduction
- That of preserving prime agricultural land
- That of maintaining wildlife habitat

<u>Open space can also be defined by its use</u>:

- Space that is not used for buildings or structures
- Space that is relatively free of development
- Space having low population
- Space having vegetation
- Space used for recreation, water supply, or agriculture
- Space in which flora and fauna exist undisturbed

It may be air, land, or water located in the city or in the open countryside.

It may be flat land in the valley or steep slopes in the mountains.

It may be a park, a plowed field, a wildlife habitat, or a divided street.

It may be flood plains and alluvial fans.

It may be national forest, national parks, or public land under Bureau of Land Management.

It may be owned publicly or privately.

It may be owned in full or it may be only an open-space easement.

A. Non-Urban Permanent Open-Space

1. Ponds
2. Sloughs
3. Park
4. Creek
5. Unincorporated agricultural land

B. Urban Transition Areas

1. Urban transition area
2. Incorporated agricultural lands
3. Unincorporated agricultural lands

C. Urban Open-Space

1. Creek
2. Flood control cross channel
3. Road right-of-way
4. Utility right-of-way
5. Freeway, expressway, and street rights-of-way parcels
6. Railroad right-of-way
7. Park areas
8. Private recreation areas
9. Historical, archeological and cultural resource areas
10. Vacant and undeveloped lands
11. Agricultural lands
12. Vistas
13. Hazard areas

GOALS General

An Approach to Long Term Plans for Open-Space

This open-space element clearly expresses both the new and very critical role of the planning function in relation to the communities' needs and the power of the municipality to deal effectively with these needs. The land use policies expressed here represent the culmination of an intensive exploration and an in-depth consideration of alternative land use plans for the area. These policies and plans were developed through rational and comprehensive planning procedures. There has been a thorough analysis of the problems and a balancing of the environmental constraints and development potential of the city against the public objectives as expressed in this element of the general plan.

The policies, objectives, and the implementation of the open-space plan are predicated on the goals that are established. These goals form the core around which the entire program is formulated. The statements found in this section express the wishes and desires of the people for the long range, orderly development of the open-space program. These goals are:

- To provide direction for both public and private interests in the development of essential open-space facilities which have the greatest possible benefit for the largest number of citizens in the long run.

- To conserve open-space areas which will help perpetuate the unique natural and cultural setting of the region for the enrichment of its residents.

- To preserve a desired livable environment in which our physical development as well as our enjoyment of our area is enhanced.

- To achieve a balanced distribution of open-space land which will provide an attractive environment essential to a sound economy. This is the only kind of environment which will be marketable in the years to come.

- To prevent adverse effects of urban sprawl and other forms of urban development.

- To maintain an appropriate balance between physical development and the preservation of open-space to meet the needs of the inhabitants for recreation and the amenities.

- To reserve adequate sites in neighborhoods, communities, and unincorporated areas for future schools, parks, and public facilities.

- To provide open-space for public facilities (sewer, water, solid waste disposal, and power sources) to eliminate water, air, and noise pollution.

- Encourage efficient public spending for acquisition of rights and titles of open-space lands.

GOALS OF THE PEOPLE OF THE CITY OF RIDGECREST

The Citizens' Advisory Committee questioned residents to determine what qualities of the Indian Wells Valley they found to be most valuable to them. The following statements represents their answers:

We have clear, clean air.
We have an abundance of open space.
We are surrounded by scenic mountain views which can be seen at all time of the year.
We have a sunny, dry climate and are within a reasonable distance from every climate from coastal to mountaintop.
Our recreation potential is enormous.
Much of our Valley is still comparatively natural.

The goal of this plan is to preserve these aforementioned qualities.

The Department of the Navy decided to develop a testing station in the Indian Wells Valley based on three major qualifications: good visibility, low population density and good transportation to Los Angeles, These needs should be met if the Department of the Navy is to do research and testing in this Valley.

One important goal of the City of Ridgecrest should be to support quality and style of life which are compatable with the areas prime employers.

Air pollution control must depend on the State and Federal governments except that the City shall not attempt to attract air polluting industries.

All elements of the General Plan must consider the fact that Ridgecrest and China Lake are here because this is a desert and that our continued existence depends upon maintaining clear air and an adequate water supply.

THE PROGRAM

The open-space element of the city's general plan is a program of critical determinants. The program should be flexible enough to admit new data and techniques as continuous feedback into the plan, yet the basic concept of preserving an attractive environment must be kept intact.

The city must meet the provisions of the State Planning and Zoning Law by adopting a local open-space plan and consistent zoning ordinance for and within their jurisdiction. For this reason, the open-space program is designed to consider a variety of land uses.

Urban Open Space

In urban areas, the total amount of open-space is not as important as the amount of usable open-space. Open-space which is accessible to the public has the greatest direct impact. The City's open-space to be retained is shown on the plan. In designing new residential and commercial development, open-space should be provided. The policy of locating recreation areas adjacent to schools is enunciated in the General Plan. Joint use of parks and playgrounds reduce the number of acres that must be acquired to provide recreational and educational activities for all ages.

Recent concepts in subdivision design recognize the importance of open-space planning. Ways to achieve this open-space include the following:

1. The imposition of a fee on all new residential construction including mobilehomes.
2. Amendment of the subdivision ordinance to require dedication of land for parks and public purposes or payment of fees for each lot developed in lieu of dedication.
3. Establishment of a tax.
4. Amendment of the subdivision ordinance to delete the requirements for block walls along major and secondary streets.
5. Acquisition of tax deeded lands for mini-parks.
6. Acquisition of land owned by the Bureau of Land Management within the city.

Environmental Damage by Development

The misuse of land resources can cause environmental problems, which may eventually result in increased public and private costs. Difficulties lie in anticipating and minimizing the effects of the development.

Existing local and state regulation, if strictly applied and enforced, reduces the possibility of extensive environmental damage. All development proposals likely to have an adverse environmental impact are required to include a comprehensibe impact report and provide means of mitigating any adverse effect.

In approving future development proposals, controls should be specified and regulated to ensure that minimum environmental damage occurs.

Areas Hazardous for Development

There are some areas which are too hazardous for development or which would be economically unfeasible to develop because of the environmental limitations. Such areas may have: seismic activity, flood hazards, steep slopes, unstable subsurface formations, earthslides, or high water tables.

Other areas may have adjacent land uses which are not "good neighbors" for urban development.Disposal sites, and salvage yards should be regulated so they do not adversely effect a community. Lands maintained for the protection of an airport can be used as a golf course or agricultural use, but not residential or commercial use.

Many areas unsuitable for urban development can be maintained as open-space and used for recreational uses. Identifying these hazardous areas on the Land Use Element of the General Plan is essential to ensure that they remain in permanent open-space.

Hazardous areas--such as railroads and highways and airports should include in their rights-of-way buffer areas which are adequate to provide the desired degree of public safety.

Airports should be protected from the encroachment of residential development. This is particularly true in our Valley in connection with the Naval Weapons Center Aircraft Test Range Approach Corridor. The Navy is attempting to purchase land or acquire an easement over the most hazardous areas. Zones such as this should be zoned Open Space with restrictions placed on the adjoining areas which are unsuitable for dense residential development due to excessive noise potential.

Open Space Resources

Citizens are realizing that decisions about land uses have enormous environmental impact on an area. Often these

decisions are irreversible and the wrong decision can be disastrous. New attitudes toward open-space have emerged, along with the realization that the amount of land in this country is not inexhaustible. This realization has created a concern in some people for the preservation and prudent development of the remaining open-space.

Until recently, the protection of open-space has not been a major concern of most people. This is because our state is so rich in land resources. The urbanized areas, large and small, are physically separated by extensive open areas. Each city has an identity derived from this physical separation from neighboring cities. What would be the character of these cities and towns if the rural area is converted to urban development? Only in the last five years has the increasing conflict between the preservation of open-space and the inroads of urban residential uses been a major concern.

During uncontrolled expansion valuable open-space land can be lost by the amount and patterns of growth. The amount of growth need not infringe on open-space. The population estimated for the year 2000 could be accomodated in the areas now shown as developed for urban uses on the general plan. Yet some developers continue to assume that the rural areas between cities will have to be developed.

STANDARDS FOR OPEN-SPACE

There are no nationally recognized standards for open-space uses in the general sense. Each geographic region is unique and requires specific standards for its own special needs.

The total open-space needs of the city must be based on its physical, social, and economic characteristics.

Although adequacy is not easily defined, guides or standards are often used to assist in determining minimum needs. Standards are used in this plan as a rule of thumb for evaluating segments of our environment. These rules must not be considered inflexible. They become valid only when applied after special care has been exercised to evaluate separate areas and locate various uses in respect to needs. Unless programs are well planned, well developed, and well managed the need will not be met. The problem is not one of number of acres, but of effective acres.

The following general standards are applicable to all open-space resources of this element:

Land Use Zoning

Land use zoning regulations and development standards, consistent with policies of the general plan will be in effect and a program for enhancement of aesthetic values will be established and maintained in cooperation with affected public agencies.

Earthwork Operations

Grading operations shall be held to a minimum. When such work is necessary, the character of the area shall be preserved. Surveillance of land cut and fill operations will be maintained and requirements for the replacement of the terrain in a suitable condition, replanting or landscaping of new slopes, is to be required. Adequate erosion control measures should be provided.

Signs

No off-premises outdoor advertising signs shall be permitted. On-premise signs should be the minimum size, height, number and type necessary for identification.

Pollutants

Production or exploitation of natural resources shall be conducted in such a manner that noise, air, and water pollution shall be held to a minimum. They shall be consistent with modern technological advancements in control measures of such operations.

Activities which may pollute the water supply shall not be conducted within the water recharge area.

Preservation

Existing specimens and stands of trees and other plant materials of outstanding value should be preserved. Fauna and wildlife habitat in this area shall also be preserved.

1. AGRICULTURAL LANDS

Definition

Agricultural land means land actively used for the purpose of producing an agricultural commodity for commercial purposes. Land may be considered to be "actively used," notwithstanding the fact that in the course of good agricultural practice it is permitted to lie idle for a period up to one year.

Inventory

Agriculture has not flourished in the Indian Wells Valley. Thompson reported that in 1919 only 800 acres were under cultivation and, although some of the ranches had been established five to ten years, only a small quantity of produce had been marketed. According to Wilcox, Hatcher and Blair (1951), when the Department of the Navy took possession of much of the Valley in 1943, only a few farms were operating; alfalfa, the predominant crop, was in good condition on permeable soils, but only fair on the less permeable soils. In 1965, 540 acres were irrigated, mostly for alfalfa and pasture, and often on an intermittant basis. It was at about this time that the Shangrila Ranch, about 300 acres in the City of Ridgecrest, went out of business because of lack of markets and decreasing yields.

Today there are about 200 acres of agriculture. Most activity is centered around Leliter Road where about 160 acres are cultivated. About 30 acres of pasture are irrigated on the city sewer lands and another 10 acres of pasture are privately owned in the same vicinity. Other small plots of alfalfa are grown to meet the needs of local horse owners. Garden vegetables and melons are grown successfully.

Some 92,000 acres are considered arable. It is agreed generally that from two to seven acre-feet of water per acre per year is necessary to raise crops, depending on the crop and the condition of the soil. Soils are generally Class II or III on the Valley floor as indicated on the map. Fertility is low. Salinity and alkalinity of the soils are low generally, but increase near the eastern edge of the Valley.

Lee (1913), Thompson (1929) and Bailey (1946) have all contended that only limited agricultural development will be possible in the Valley because of the limited quantity of water and the impermeability of many of the soils. The early spring is often a false spring followed by freezing weather which destroys fruit blossoms. The growing season is shorter than that of the competing San Joaquin Valley.

Sandstorms and wind are serious problems. Although alfalfa is the most commonly grown crop, it becomes brittle in the low humidity, transporting poorly.

Other conditions adversely affecting agricultural development are high freight rates and the competitive wages established by NWC and the chemical plants. The non-uniform quality of the soil makes it difficult to irrigate, cultivate and fertilize.

Deficiencies

At the present time no deficiencies exist. Widespread agricultural development is economically unfeasible and might increase humidity to an undesirable degree.

Projected Development Plan

As population and urbanization increase in the future, agriculture may become economically competitive and necessary. The areas best suited to agricultural activity are in the western portion of the Valley. These areas, north of Inyokern, have permeable soils, the least alkali soils and water, and are currently zoned for agriculture. If agriculture were to be attempted on a large scale, alternate sources of water would have to be explored (water mining, exchange with the Los Angeles Aquaduct, rerouting the North Fork of the Kern River and importation are some possibilities).

Citizen Participation

The following names were mentioned in the Citizens' Advisory Committee as people who have farmed in the area and might offer some further information:

Virginia Thompson of Inyokern
Frank Henderson of Inyokern
The Carr Family
Chet Smith

2. RECREATIONAL LANDS

Definition

Recreation land is any area of land or water designated on the state or regional or local open-space plan as open-space land and which is actively used for recreation purposes and open to the public for such purposes with or without charge.

Policy

A minimum standard is set for the amount and quality of land devoted to public and private recreation. Dedication of land to public recreation is an essential requirement of all urban planning. Adherence to the general plan which designates recreational facilities is vital to the orderly development of a community.

Recreational opportunities within urban areas have great public value in maintaining physical, mental, and social well-being. This value cannot be measured in monetary terms.

Public recreation areas tend to be squeezed out of newly developing urban areas because of the high cost of land. The citizens are the ones who lose when this happens. Recreational facilities as designated in the city's general plan can assist in insuring the proper distribution and spacing of these essential facilities.

Recreational Land Standards

Size

The following are deemed minimum standards which the City of Ridgecrest will meet:

Neighborhood Parks	- 3 acres/1000 population	-1/4 mile radius
Community Parks	- 2 acres/1000 population	- 1 mile radius
Golf	- 2 acres/1000 population	
Natural Areas	- 5 acres/1000 population	
Total	-12 acres/1000 population	

Noise

Public use by all citizens is encouraged during the daylight hours. Activities resulting in excessive noise which are inconsistent with the surrounding uses shall not be permitted.

Proper Maintenance

The recreation area shall be maintained in good condition with proper attention given to neat appearance. The grounds shall be kept free from trash or other objectional uses.

Inventory

The City of Ridgecrest owns no developed park lands.

Other recreation areas include the following:

1. Henry Helmers Park: 7 1/2 acres developed, ultimate size approximately 12 acres. It includes Pinney Pool. picnic facilities, dilapidated tennis court, lawn, toilets, and a small inadequate building for community purposes. County operated.

2. Stauffer Baseball Park; 8.2 acres. Three little league baseball diamonds used primarily by the Ridgecrest Little League. Privately owned, uncertain future.

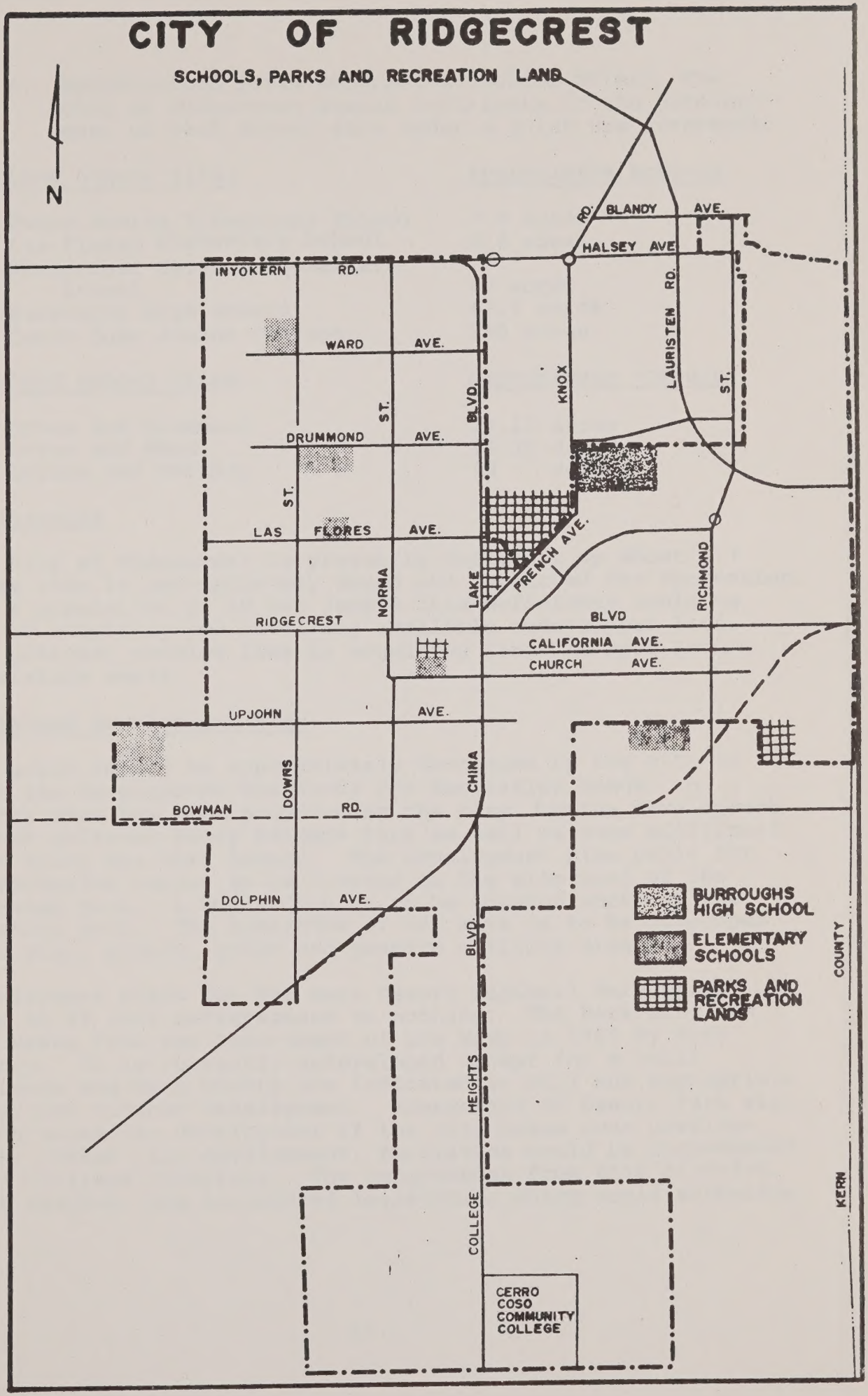
3. Fairgrounds: 30 acres near the proposed Bowman Road and Richmond Road. Large pavillion building, several smaller buildings and a rodeo arena. Owned by Desert Empire Fair.

Proposed Facilities

1. Kern Desert Regional Park: 100 acres. The park site was purchased from the Department of Navy in 1969 by Kern County. It is currently undeveloped except for a small entrance and some play and watering equipment which is in storage.

2. Community Golf Center: 25 acres. Being developed by Ridgecrest Improvement Committee to consist of lighted driving range, club house and an 18 hole minature golf course. City owned land. City to take charge of improvements upon completion.

3. Neighborhood Miniparks: 2 acres consisting of 15 lots purchased by the city which when developed will establish 7 miniparks scattered throughout the city. One such park on Moyer Street has plans drawn and trees planted.


CITY OF RIDGECREST
SCHOOLS, PARKS AND RECREATION LAND
N
INYOKERN RD.
WARD AVE.
DRUMMOND AVE.
LAS FLORES AVE.
RIDGECREST BLVD
UPJOHN AVE.
BOWMAN RD.
DOLPHIN AVE.
NORMA ST.
DOWNS ST.
LAKE BLVD.
CHINA BLVD.
HEIGHTS COLLEGE
KNOX
FRENCH AVE.
RD. BLANDY AVE.
HALSEY AVE
LAURISTEN RD.
ST.
RICHMOND
CALIFORNIA AVE.
CHURCH AVE.
COUNTY
KERN
CERRO COSO COMMUNITY COLLEGE
BURROUGHS HIGH SCHOOL
ELEMENTARY SCHOOLS
PARKS AND RECREATION LANDS

4. Neighborhood Parks adjacent to School Sites: The City of Ridgecrest should contribute to the development of each school site under a joint use agreement.

Existing School Sites	Approximate Acreage
1. James Monroe Elementary School	7.8 acres
2. Las Flores Elementary School	8.8 acres
3. Ridgecrest Heights Elementary School	40 acres
4. Burroughs High School	47.5 acres
5. Cerro Coso Junior College	160 acres

Acquired School Sites	Approximate Acreage
1. Downs and Drummond	19.17 acres
2. Downs and Ward	11.25 acres
3. Upjohn and Gateway	20 acres

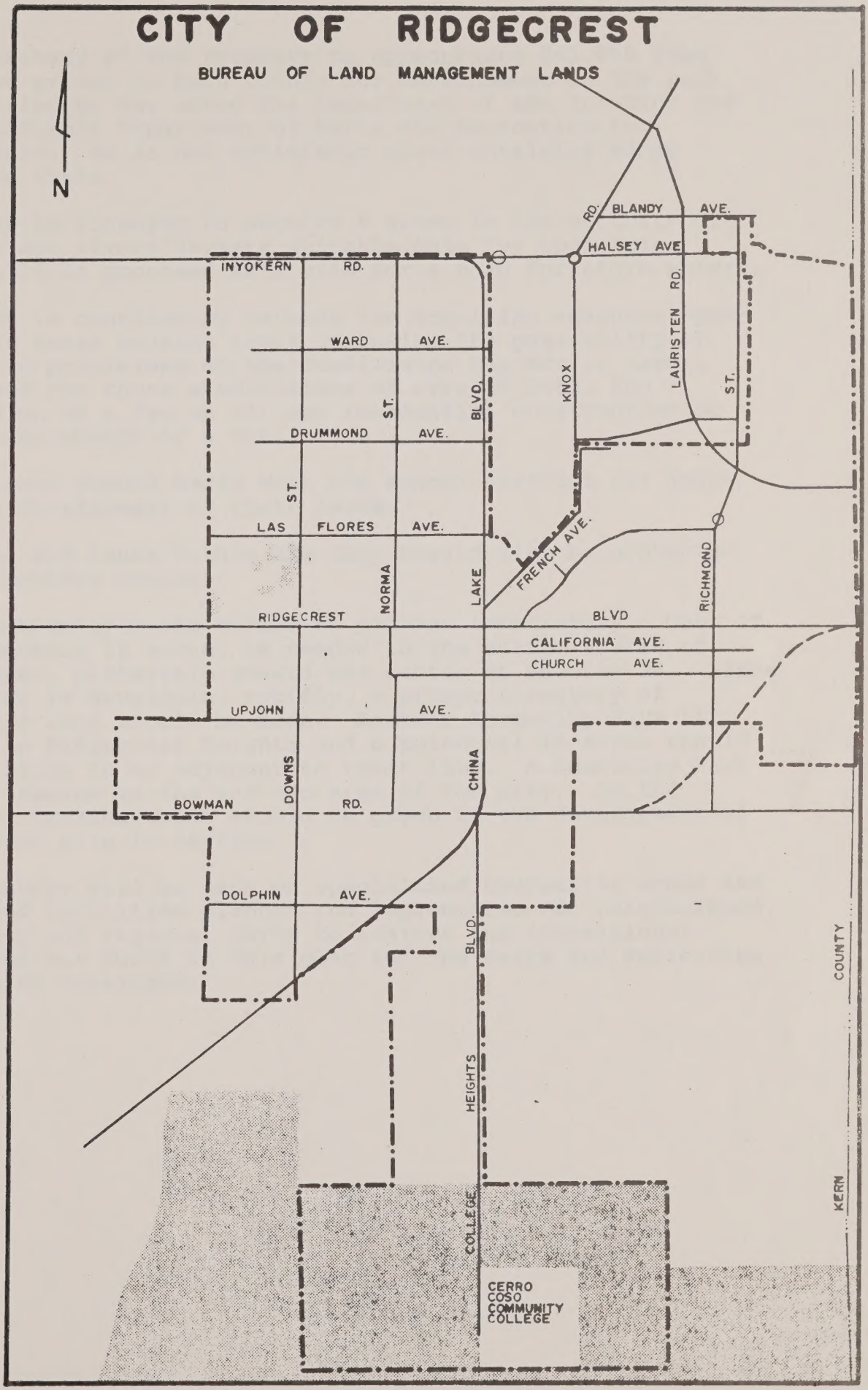
Deficencies

The City of Ridgecrest is presently deficient by about 113 acres that is appropriately zoned and developed for recreation. For a population of 10,000 people this deficiency could be met by acquiring and utilizing available undeveloped land. The greatest problem lies in acquiring lands to meet future population needs.

Projected Development Plan

113 acres should be appropriately developed by the city to meet its Development Standards for Recreation Lands. A Master Plan has been prepared by the city for the development of the existing Henry Helmers Park as well as some additional land which has been leased. The development plan calls for a recreation center to be located on the site west of the swimming pool. A Boy's Club is to be located north of the swimming pool. The remainder of the site is to be developed into play, picnic, quiet and passive activity areas.

Development plans for the Kern Desert Regional Park range from an 85 acre extravaganza to nothing. The Park site was purchased from the Department of the Navy in 1969 by Kern County. It is currently undeveloped except for a small entrance and Kern County has indicated it will not appropriate money for further development. Annexation of Desert Park will bring money for development if the city takes over development. Under city development, facilities would be recommended by a citizens committee. The Congressman from this district, Bill Ketchum, has introduced legislation which would authorize


CITY OF RIDGECREST
BUREAU OF LAND MANAGEMENT LANDS
N
RD.
BLANDY
AVE.
HALSEY AVE
INYOKERN
RD.
WARD
AVE.
ST.
BLVD.
KNOX
LAURISTEN RD.
ST.
DRUMMOND
AVE.
ST.
LAS
FLORES
AVE.
FRENCH AVE.
NORMA
LAKE
RICHMOND
RIDGECREST
BLVD
CALIFORNIA AVE.
CHURCH AVE.
UPJOHN
AVE.
DOWNS
CHINA
BOWMAN
RD.
DOLPHIN
AVE.
BLVD.
COUNTY
HEIGHTS
COLLEGE
KERN
CERRO
COSO
COMMUNITY
COLLEGE

the Secretary of the Treasury to appropriate $81,000 (the purchase price) to Kern County for development of the park. In addition he has asked the Department of the Interior and the California Department of Parks and Recreation for assistance. He is not optimistic about obtaining money from the State.

The city is planning to acquire 5 acres in the vicinity of Felspar and Alvord Streets suitable only for open-space because it is proposed as a site for a sump for storm waters.

The city is considering methods for acquiring adequate open-space in newer housing areas including the possibility of utilizing provisions of the Subdivision Map Act to assure park land for those subdivisions of over 50 lots, the imposition of a fee on all new residential construction or the establishment of a tax.

Negotations should begin with the school district for joint use and development of their lands.

Selected BLM lands within the city should also be protected by appropriate zoning.

Other community parks should be planned immediately. One, of approximately 10 acres, is needed in the northern area of Ridgecrest, preferably toward the center of Section 28. Since this area is developing rapidly, a prompt inventory of available land should be made. Another Community Park is needed in Ridgecrest Heights and a potential 10 acres should be set aside in or adjacent to Tract 1520. A Community Park is also needed in the eastern area of the city. In the interum, consideration should be given to the development of the school site in Section 3.

An inventory will be made of specialized recreation areas and needs and facilities planned and implemented for neighborhood, community and regional parks to achieve the recreational standards set forth in this plan and the Parks and Recreation Plan being developed.

CITIZENS PARTICIPATION

Some leadership has been exhibited by local service clubs and committees in the community. These service clubs have taken it upon themselves to provide some recreation facilities.

Relationship of plan to other plans and elements of the General Plan

A Parks and Recreation Element is being prepared which will be more detailed.

3. HISTORICAL AND ARCHEOLOGICAL LANDS

The historical and archeological sites within the area have an intrinsic value to our desert community. In being somewhat isolated from other urbanized areas, we become more aware of the historic past of the immediate area.

California is rich in historical and archeologocal sites. Each geographical area has its own unique historical and archeological qualities.

In the Mojave Desert we are close to our historical past; it is part of our culture. Many historical and archeological sites are within the sphere of interest of the city, and are considered to be significant resource, vital to the enjoyment of the citizens. These resources should be protected and managed so that they will service in our expanding urbanized world.

GOALS

It is the goal of the city to express its interest in the historical and archeological lands, and to work with various agencies for the conservation,development, and utilization of historical and archeological sites for the benefit and enjoyment of our citizens.

POLICY

It is the policy to support and assist the various agencies which have jurisdiction over the historical and archeological land to conserve, develop, and utilize the historical and archeological lands for the benefit and enjoyment of our citizens.

ARCHELOGICALLY SENSITIVE AREAS IN THE INDIAN WELLS VALLEY

The Indian Wells Valley and surrounding mountains have been utilized as a hunting and living area for at least the last ten thousand years and probably longer. There is probably no square mile in the 2200 square miles shown on the map, that doesn't have an artifact, even if only chipping flakes. Some areas, such as the Coso Mountains to the north are extensively covered with petroglyphs, living sites and tool making debris.

POLICY

The Valley and adjacent mountains are divided into three zones, depending on the quantity and quality of the archeological remain present:

1. Areas which are of high archeological sensitivity should be closed to destructive influences or an impact evaluation conducted on every project of any magnitude.

2. Zones known to have archeological value, but not extensively explored should be explored before major projects are started.

3. Areas which have sites that have been destroyed by human activity or are poor in archeological potential, and which need not be protected, if there is an understanding that sites of value, if found, will not be destroyed but promptly assessed professionally.*

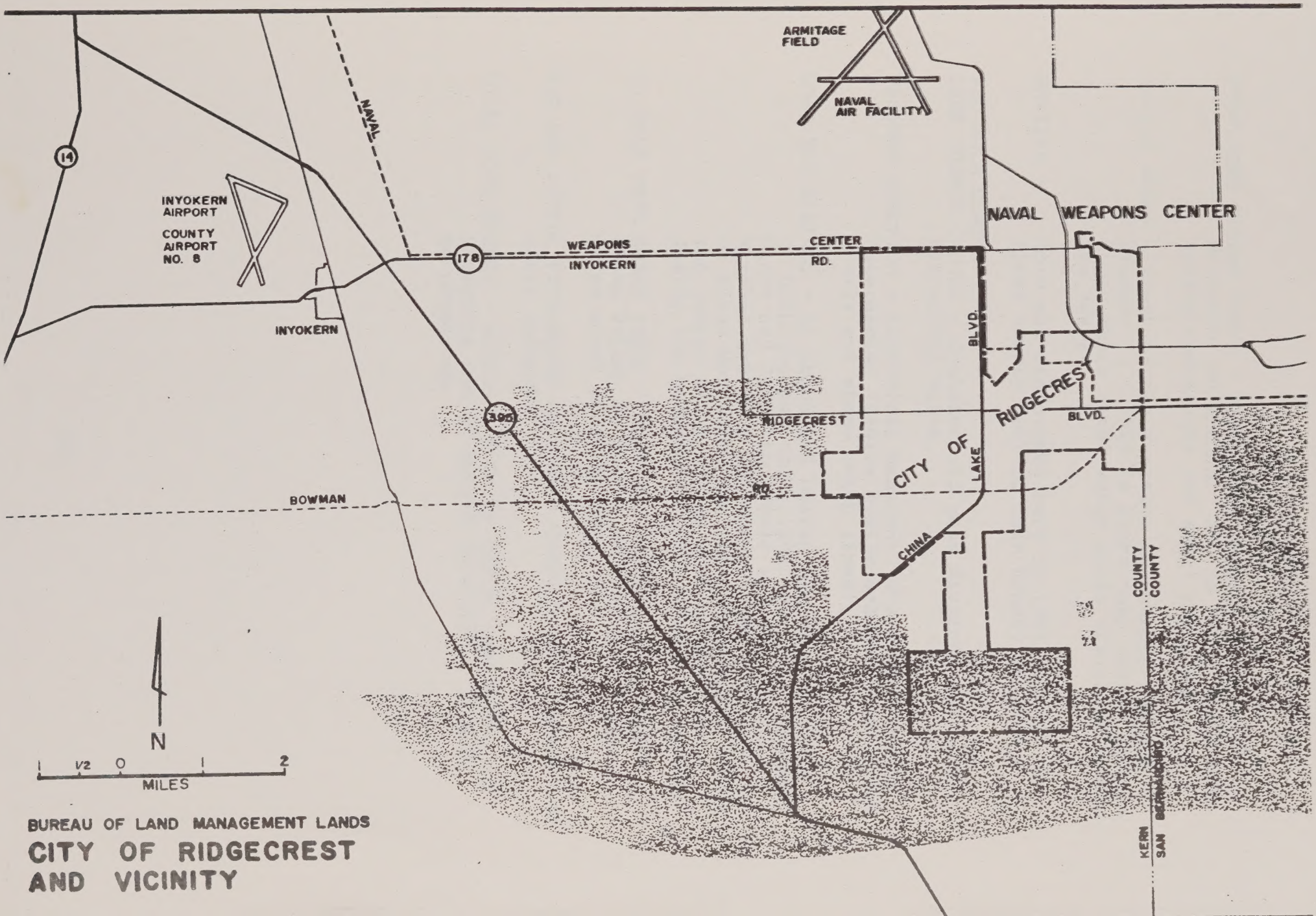
HISTORICAL POTENTIAL AREAS IN THE INDIAN WELLS VALLEY

There are many potential historical areas within the sphere of interest of our community. We are aware of our historical past through legends that have been told through the years and through the physical remains that exist today. Listed below are potential historical sites:

ROBBERS ROOST - southwest of the junction of Highway 14 and highway 178 to Lake Isabella.

MINING GHOST TOWNS - Cerro Gordo, Darwin, Panamint City, Garlock; these are all ghost towns with numerous mines.

*prepared by the Mojave/Sierra Archeological Society - an affiliate of the Maturango Museum of Indian Wells Valley.



BUREAU OF LAND MANAGEMENT LANDS

CITY OF RIDGECREST AND VICINITY

POPULATED MINING TOWNS - Randsburg, Johannesburg, Red Mountain and Atolia. All of these towns have mining operations and small population.

INDIAN WELLS - South of the junction of Highway 395 and Highway 14. This is where many desert parties found their first water while traveling across the desert.

HAVILAH - Gold was discovered here in 1864 and was the first county seat of Kern County in 1866.

RED ROCK CANYON &
LAST CHANGE CANYON - Contains old gold diggings and other historical sites.

FREEMAN JUNCTION - Historical monument, where many trails intersected (Indian trails and later explorers trails and stage coach lines).

COSO HOT SPRINGS - An abandoned health resort with pools of bubbling mud and sulphur springs. Cinnabar Mines and Reduction Works and the Devil's Kitchen are in a geothermal area. Sugarloaf or Glass Mountain, the site of obsidian fields and Indian activity, is also in this area. Inside the boundary of NWC, restricted access.

20 MULE TEAM BORAX TRAIL - Used for hauling borax from Death Valley to Mojave passing just a few miles south of China Lake.

BIG AND LITTLE PETROGLYPH CANYONS - Contain rock carvings of early Indians.

LOCAL ROCK HOUSES - Built of tufa by early, residents, an ingenious use of native materials. Should be preserved.

4. SCENIC LANDS

Definition

Scenic Land is land designated on the local open-space as open-space land which possesses outstanding scenic qualities worthy of preservation. These lands can be areas which are uneconomical to develop in conventional ways. Rock outcrops, hills, and depressions can become scenic lands if properly developed. Such areas can become important assets to an urban community.

The much valued "scenery" of the desert is a non-specific quality dependent on open spaces, clear air and a minimum of development. Because there is little covering on the desert, man's alterations of the landscape can create ugly open scars not softened by grass or trees as in the case of the Los Angeles acquaduct. One area mentioned where this feeling of this vast openness can especially be appreciated is the College site (Section 21 and 22).

Policy

Every effort must be made to identify, develop, and preserve scenic qualities worthy of preservation. Scenic qualities are important to preserve because they tend to provide an identity to a community and provide for the well-being of the citizens.

Scenic Lands Standards

Screening

Existing indispensable, offensive land uses should be screened from view. Effective screening shall be accomplished by proper use of planting, grading, or fencing.

Development Design

Site planning, architectural, and landscape archetectural design should result in an attractive appearance and harmonious relationship among the various elements of the development and with the existing landscape.

Property Maintenance

Structures on private or public properties, visible from scenic land, should be maintained in good condition and with proper attention given to neat appearance. The ground shall be kept free from trash or other objectionable uses

or effectively screened from view.

Public Use

Public uses by all levels of government--federal, state, county, and city --should be encouraged within the corridor for the opportunities they offer to obtain total aesthetic control.

Inventory

Robbers Roost - a rugged rock formation west of the community.
Fossil Falls - a dry waterfall eroded into basalt, north of Little Lake.
Walker Pass - most southerly of the passes through the Sierras, Joshua trees and wildflowers, views of the Indian Wells Valley.

El Paso Mountains - brightly colored cliffs and rock formations, Black Mountain (4938'), Last Chance Canyon, spectacular views, the Garlock Fault and Red Rock Canyon.
Sierra Canyons - on the east slopes of the Sierra Nevadas, Indian Wells, Short, Sand, Grapevine and Nine Mile Canyons with their wildflowers, streams, views and picnic spots.
The Pinnacles - geological formations in Searles Lake, 20 miles east of Ridgecrest.
Black, Petroglyph, Renegade and Mountain Springs Canyons - views from elevations of over 6000', plant communities of the higher elevations, within Naval Weapons Center, access restricted.

5. WATERSHED OR GROUNDWATER RECHARGE LANDS

Definition

Watershed or ground water recharge land is land designated on the state or any regional or local open-space plan as open-space which is important to the state in order to maintain the quantity and quality of water necessary to the people of the state or any part thereof.

Watershed lands include wilderness areas, forest and range lands--both primary and marginal, brush lands, agricultural lands, and mountainous lands of little value for primary agricultural production. They are of great importance because of the waters they provide for irrigation and domestic use, power generation, recreation, grazing, timber, and wildlife habitat.

Water recharge lands include rural, as well as urban land. They may have land uses such as percolation ponds and injection wells. Fire and pollution in both watershed and recharge areas are hazards during the dry summer months. Tremendous direct and indirect losses from these causes regularly occur on such lands throughout the county and state.

Policy

A comprehensive program should provide for sustained multiple use of these lands through reduction of fire hazards, erosion control on burned-over lands, and type conversion of vegetation where desirable and feasible. Their use by urban or suburban residents for recreational and subordinate uses should be permitted only under rigid control. These areas shall be preserved for the well-being of the community. Development within these areas shall be restricted to those associated with the watershed and groundwater recharge program and recreational uses which are not detrimental to the area. Flora and fauna and wildlife habitat shall be preserved in these areas.

Watershed or Groundwater Recharge Lands Standards

The people have a prime interest in the conservation, control, and utilization of the water resources in and around the city. Therefore, the quality of all water in the vicinity shall be protected for their use and enjoyment.

Activities and factors which may affect the quality of the

water in the watershed and water recharge lands shall be regulated. The objective is to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters.

In the interest of the people's health, safety, and welfare a program for the control of the quality of all the water in the vicinity is necessary to protect it from degradation.

The State Water Resources Control Board and the Regional Water Qualtiy Control Boards are the principal state agencies with prime responsibility for the coordination and control of water quality. The city shall coorinate their activities with the state boards so as to achieve a unified and effective water quality control program.

STORM WATERS

1. INVENTORY

Detailed meterological records have been kept in Indian Wells Valley only since the Navy's arrival and primarily in the lower basin. Average rainfall over the last 25 years has been 2 1/2 inches with a low of 1/10 and a high of 9 1/2 inches. Rainfall in the upper valleys and hills increases with altitude until it reaches approximately 20 inches per year in the Sierra Nevada to the West.

The slow gentle rains which the area tends to receive in the winter are generally no problem as the percolation rate is reasonably high in the sandy alluvium which fills the valley to the west and southwest, the areas which contribute the most rainfall to the ground water. However, heavy winter rains can occur; during the first two month of 1969, the weather station on the Center measured more than 4 inches of rain.

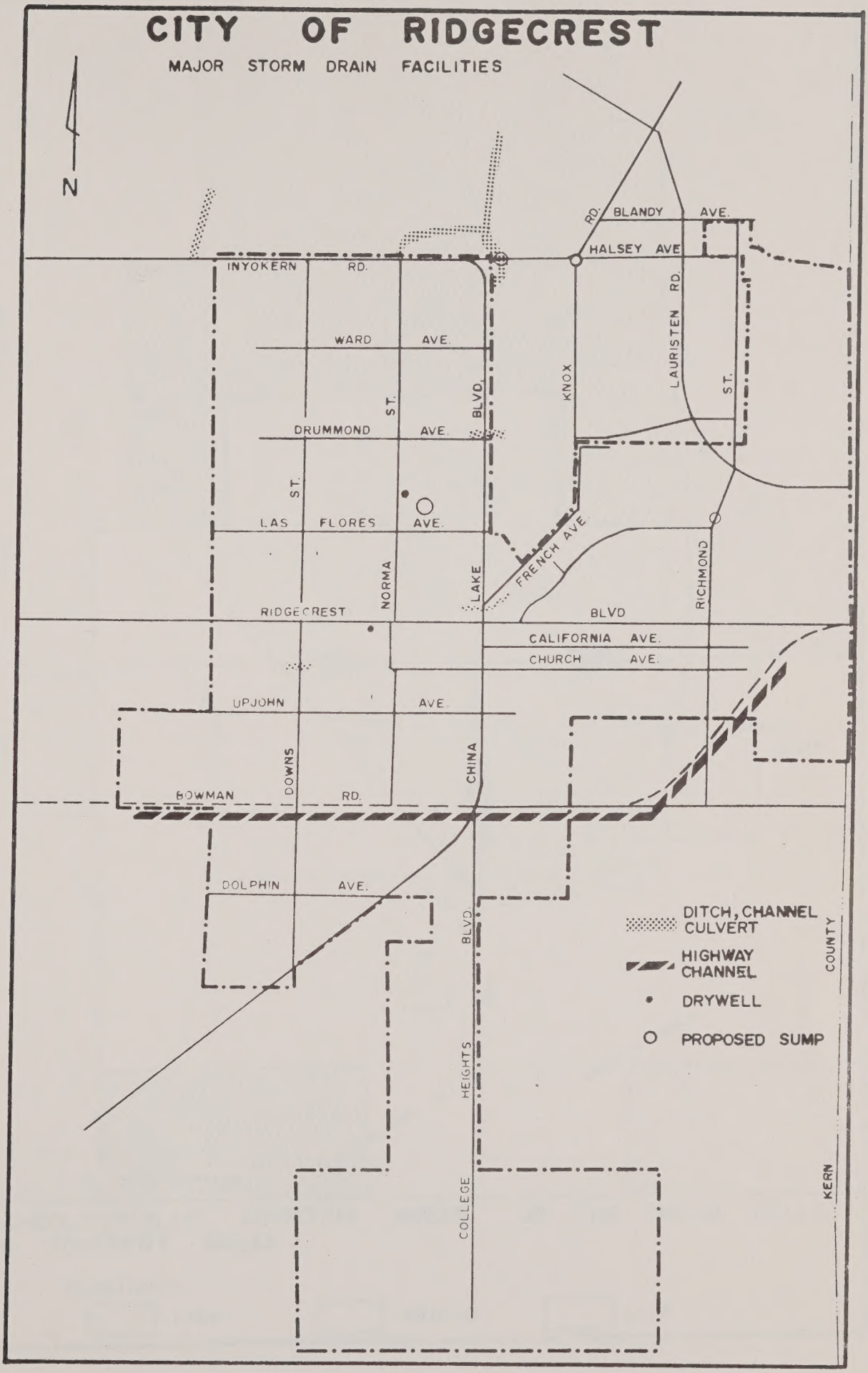
The September 1963 storm which flooded the northern part of Ridgecrest and the Michelson Laboratory basement area at NWC was a typical summer tropical thunderstorm which deluged one area while leaving another area a few miles away more or less unscathed. In this case a large quantity of water was dumped to the southwest in the Black Mountain area. The El Paso wash, which drains part of this area, would have drained via the flood plain to the west of Ridgecrest and down into the bed of China Lake. Unfortunately the three 6-foot culverts under Highway 178 were not adequate and the excess water flowed east along the highway into the norther part of Ridgecrest and then into the NWC, which are both below the Highway grade in places.

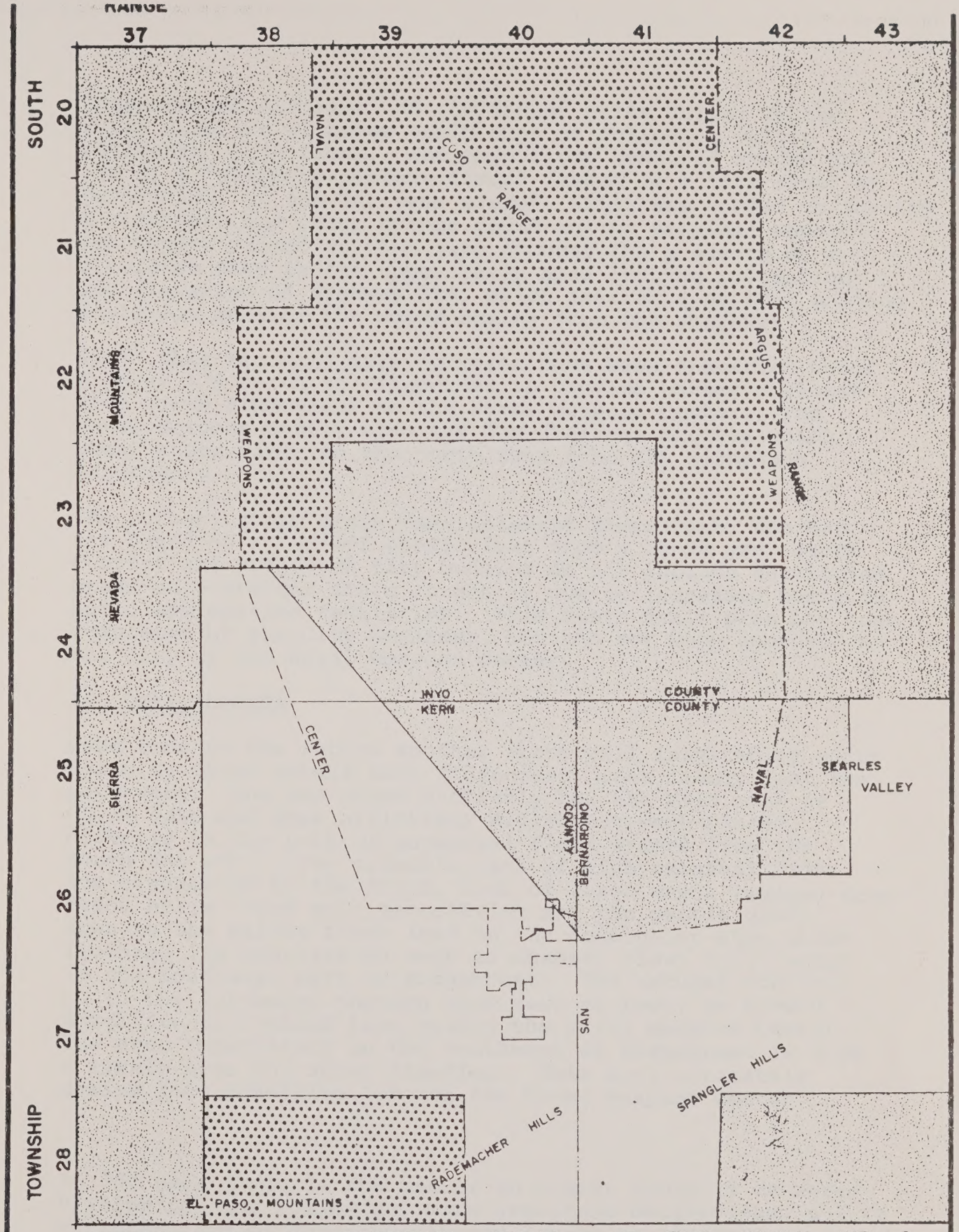
This storm caused considerable damage to Navy research facilities. Since the NWC has no control over where flood waters reach the base the basin flood problem was finally referred to the US Army Corps of Engineers, who came into the valley and proposed a channel/levee system west of Ridgecrest, called Ridgecrest Wash Channel. The cost for this project was to be shared by the NWC and the US Army Corps of Engineers. Maintenance was to be provided by the Navy for its portion on the NWC and a maintenance tax was to have been levied on an improvement district in the Ridgecrest area to maintain the portion outside the Naval Weapons Center.

Before construction was finally authorized, the Kern County Water Agency terminated formation of the Improvement District after the Boards Director of the East Kern County Resources

CITY OF RIDGECREST

MAJOR STORM DRAIN FACILITIES





ARCHEOLOGICALLY SENSITIVE AREAS OF THE INDIAN WELLS AND ADJACENT AREAS

SENSITIVITY

HIGH MEDIUM LOW

Conservation District and the Indian Wells Valley County Water District withdrew their support following valley residents' objections. The objections centered around the use of a "standard project flood" (based on a 1932 flood at Techachapi) of the 300 year storm*, which was needed to justify the project and other errors found in the original report. The report failed to take into account the presence of a diversion dike in the upper basin area and the relocation and elevation of Highway 395, which creates a natural ponding basin for much of the water coming from the southwest.

Since this flooding more culverts have been installed under Highway 178 north of Ridgecrest to provide better drainage from north Ridgecrest to the Naval Weapons Center. The Naval Weapons Center also has dug drainage ditches which shunt storm water to the north away from the Michelson Laboratory.

The current storm drain facilities of Ridgecrest, see map, are based on a run-off coefficient from a 10-20 year storm. Current and projected city budgets do not include facilities based on a greater storm intensity due to increased costs to build appropriate facilities. This storm drain plan has been completed by the City Engineer, but has not been approved by the City or the Naval Weapons Center.

II DEFICIENCIES

Some time in the future another storm will inevitabley occur bringing flood waters into Ridgecrest, most likely from the southwest. The map shows distincly how the main area of China Lake and then ultimately Ridgecrest were placed directly in the path of potential flood waters from the south and west. The probable lack of high rainfall from low elevations to the south, lack of large washs leading from these hills, good soil percolation and the gentle grade down to the valley floor lead to the conclusion that sheet flooding (in contrast to wash or channel flow) could occur in the southeast part of Ridgecrest. The natural drainage is to the northeast through this part of town, on toward Satellite Lake which lies within the Naval Weapons Center. The area immediately to the southwest of Ridgecrest is also a likely area for sheet flooding. This area ultimately drains into Satellite Lake on the Naval Weapons Center.

*A 300 year flood i= the use of an x year flood is an abreviation for the following, more stringent definitions: a 1 in x probability of occurence in any 1 year or (100/x) percent chance of occurrence in any given year.

Since most of the potential flood waters originate in the County, outside Ridgecrest and China Lake, Kern County's participation is necessary in any plans for the future. More comprehensive County flood control planning in the future may eventually alleviate the problem.

The Naval Weapons Center has two major storm water problems. The first of these is the need for diverting of floodwaters coming from storms generated to the west and south of Ridgecrest. The drainage ditches, as installed, are capable of handling less than a 10 year storm. The other problem is potential overflowing of Mirror Lake into surrounding residential and business areas, if a major storm were concentrated in the local area or to the south of Ridgecrest. Increased paving and building in the City of Ridgecrest will aggravate this potential problem in the future. Many areas in Ridgecrest do not have curbs and gutters to channel local rainfall and carry it to proper drainage channels; consequently road damage and water ponding have resulted. Long term planning to complete unimproved areas should be instituted.

As Ridgecrest develops more areas impervious to rainfall and more storm water must be disposed of in order to minimize building, intersection, and street flooding. Current City practice is to add culverts and drainage ditches as flooding, improper drainage or erosion problems occur.

III PROJECTED DEVELOPMENT PLAN

Ridgecrest has only one major storm facility planned for the near future. Culverts will be added as needed. A sump, to take care of excess water draining from west Ridgecrest will collect water in a natural basin in the Northeast quarter of Section 33. This sump will be placed to the northeast of Las Flores Avenue and Norma Street.

The master drainage plan for south Ridgecrest includes the use of Bowman Road (proposed Highway 178) as a major interceptor for flood water from the south. Since it is entirely possible that this highway may never be constructed, alternate controls should be planned.

Naval Weapons Center has the money originally scheduled for this portion of the flood control channel proposed by the Corp of Engineers. They are in the planning-design stage of providing a scaled-down version of a channel/levee similar to that proposed earlier. They are currently working with State Division of Highways on plans to intercept flood waters from the El Paso Wash and replace the three small culverts. The Division of Highways has money available for this type of

improvement. The Navy has no additional plans or funds for increasing their flood control capabilities.

IV. OBSTACLES

Since flood water generation is on non/City/Naval Weapons Center land, lack of implememtation of long range planning recommendation is a major obstacle to a sensible and economical solution to potential flooding.

The high costs of increased flood control capabilities (hundreds of thousands of dollars) are beyond the capabilities of the City.

Naval Weapons Center can only ask for funding for improvements actually located on government land.

V. CITIZEN'S PARTICIPATION

The formation of an advisory committee of representatives from the Navy, the City, the Indian Wells Valley County Water District, the County and the Valley taxpayers to cooperate, if and when another flood control investigation and plan is attempted, would be advisable. This committee would function only during investigation and implementation.

VI. FINANCING

For the area outside the City, Kern County could levy a tax on developments in the Valley which would benefit from a flood control project and build facilities appropiate to the flood potential and financial base.

The City Council budgets for drainage improvements within the City. Money generally comes from general funds, and improvement district (s) could be formed in the more hazardous area(s) to finance improvements beyond the 10 year storm level.

All public works projects for the Naval Weapons Center must be financed by the U. S. Government.

VII. TIME SCHEDULE AND PRIORITIES

The sump northeast of the Norma Street/Las Flores Avenue intersection has been projected to be completed between 1975 and 1980.

Naval Weapons Center plans to dig their channel/levee this year (1973). The Highway Department's work will hopefully be completed by summer 1974.

VIII. RELATIONSHIP OF STORM WATERS PLAN TO OTHER PLANS AND ELEMENTS OF THE GENERAL PLAN

Storm waters in the surrounding mountains are the source of our underground water in the basin. Excessive amounts (that which does not percolate into the ground close to the mountains) could be used as a ground water recharge source in the western and southwestern parts of the Valley.

Our soils are formed mainly through the action of storm waters on the rocks of the mountains.

Zoning of potential flood plains as open-space for parks is a desirable feature.

IX. CONCLUSIONS AND RECOMMENDATIONS

Further hydrologic studies are desirable for the Valley, especially in view of our rapidly expanding population. The State Department of Water Resources and the Corps. of Engineers indicated in 1972 that they would consider sharing costs for such a study from the San Bernardino County line to Jacks Ranch Road.

Such studies plus data already available on the area to the west and south of Ridgecrest should provide a firm basis for predicting possible storm damage and for proposing alternatives, if the need is shown by the study. A realistic cost/benefit ratio based on Kern County/Ridgecrest ability to pay is essential, as is the formation of the advisory committee before any construction work is contemplated. It is entirely possible that a minimum amount of work would provide enough capacity to take care of a 100 year storm. It would be the committee's prime function to assess the data to determine possible damage, to set the storm frequency level of prime concern and to decide what measure would be needed to minimize damage at what costs.

The use of Highway 395 as a "dam" by closing two of the three five foot culverts at the El Paso Wash has been proposed as a means of reducing water run-off toward China Lake. Theoretically, this could also allow more time for excess storm waters to percolate into the ground. The Division of Highways objected to the closing of the culverts because the highway embankment was not built as a dam and dammed flood waters could cause wash-out of the highway.

Increasing population growth plus increasing paving and guttering of the City street will put increasing demands upon the storm facilities. A study should be made to attempt to predict areas of growth, assess potential problem areas, and consider alternatives to minimize damage before a serious situation arises, rather than waiting until it develops and then attempting to rectify it. Economy alone would dictate this approach.

The following area should be designated as open-space to ensure that no development takes place: Mirror Lake, Satellite Lake and the proposed five acre sump to the northeast of Las Flores Avenue/Norma Street intersection.

The possibility of special building construction codes for development in those areas of Ridgecrest particularly susceptible to sheet flooding should be considered.

6. WILDLIFE HABITAT

Definition

Wildlife habitat is any land or water area designated on the State or any regional or local open-space plan as open-space land which is unusually valuable or necessary to the preservation or enhancement of the wildlife resources of the State.

Wildlife habitat areas may provide substantial open-space, scenic, and recreational values. Careless use may damage these lands and limit or destroy their value for generations. These lands are usually valuable or necessary to the preservation or enhancement of the wildlife resources of the State.

The geographic extent of wildlife habitats is governed by various environmental factors which a species of animals can or will tolerate. Noise and the presence of hostil creatures are factors which discourage many animals from inhabiting an area. There is a constant natural evolution occuring in wildlife habitats which is in response to environmental changes. Animals must adapt or move to more acceptable locations. Old established wildlife habitats have become unacceptable for most animals when human uses are introduced. Within a city, the noise, man and their domestic pets have driven all but a few small animals and birds from the area. Intersting enough, the presence of man and the availability of food has been the cause of a migration to the city of certain small animals and birds. They usually inhabit the parks and wooded areas.

It is the small animals and bird habitat, compatible with city activities, that are to be preserved by this plan.

In the Indian Wells Valley man-made ponds provide a significant breeding and wintering grounds and shelter for waterfowl and other birds. It is desirable to preserve these areas in order to attract wildlife.

Within Kern County there are several species of animals and birds that are classified as being endangered species. The San Joaquin Kit Fox and California Condor are examples. The city endorces those state, county and federal programs that strive to preserve these and other forms of wildlife.

Policy

Such lands are not usually found within the cities boundaries.

They are important to the citizens for their recreational and aesthetic value. The county, state and federal agencies who control such areas are encouraged to maintain such areas for the benefit of the general public.

See Conservation Element for detailed policies, inventories. and plans.

WILDLIFE

Inventory

See Conservation Element. The wildlife inventory includes a survey on reptiles, birds, and mammals of Indian Wells Valley and surrounding areas.

The inventory has three deficiencies. It does not include a catalog of invertebrates (ie. spiders, insects, and fairy shrimp). One of the more important deficiencies is the absence of a survey of fairy shrimp species for the playas of Indian Wells Valley and surrounding areas. There is very little information available and a survey would require extensive research by a competent invertebrate zoologist. The second deficiency is the lack of habitat listings for mammals. This can be added later. The third is that the habitat listings for the reptiles, the snakes in particular, are incomplete due to lack of data.

Capital Projects

The City has no capital projects involving protection of wildlife habitat or establishment of wildlife preserves. Cerro Coso Community College has the only plan for protection of native desert flora and fauna. Cerro Coso Community College, which is located on the slopes of the Rademacher Hill (Southwest quarter of Section 22) is surrounded by undeveloped national resource lands under the control of the Bureau of Land Management. The College has requested of the Bureau of Land Management that five sections (20, 21, 22, 27 and 28), which adjoin the College, remain undeveloped and in "trust" for a college natural area or reserve.

The College plans 1) to fence 80 acres to the east of the buildings for a wildlife and plant reserve, 2) to eventually develop parts of the remaining acreage with nature walks and 3) to use Bureau of Land Management lands for experimental research.

The lands surrounding the College take in two basis habitat types. Cresote Bush Scrub and Rock Slopes (with Cresote Bush Scrub). Those habitats are typical of habitat found elsewhere in the Valley. No unusual or uncommon floral or faunal species are known to occur here. However several species of reptiles are protected or semiprotected under

statues of the California Department of Fish and Game Code. The desert tortise is protected from collection or harassment; such reptiles as the desert iguana, desert horned lizard, rosy boa, collared lizard, leopard lizard, and chuckwalla and banded gecko are protected by bag limits. The Mojave ground squirrel is also protected; it has the status of rare under Department of Fish and Game Codes.

Obstacles

Cerro Coso College is concerned with factors contributing to habitat deterioration and wildlife losses on college and adjacent national resource lands. These include off-road vehicle activity and shooting. The desert flora and fauna is fragile. Continued misuse of these areas will devalue the proposed natural areas/nature reserve proposed by the College.

Relationship of Plan for Natural Resource Land to Other Plans and Elements of the General Plan

Protection of the key wildlife habitats should be an integral part of the recreation plan.

Recommendations

The following recommendations are based on the assumptions that most people who live in Indian Wells Valley as permanent residents and do so out of choice and that there are certain inherent values in the desert land and climate that are especially appreciated by these residents. Residents have mentioned such values as open spce, clean air, low population density, lack of development, and recreation potentials as desirable attributes of Indian Wells Valley.

1) The City of Ridgecrest is surrounded on the south and west by national resource lands under the control of the Bureau of Land Management. To the north and east lie lands under the jurisdiction of the Department of the Navy.

Lands within the City of Ridgecrest are composed of three habitat types for wildlife and native flora:
a) planting and cultivated areas and housing tracts, b) ponds, marshes and drainage ditches, and c) Cresote Bush Scrub. It is anticipated that cultivated areas and housing tracts will increase at the expense of habitat type (c) Creosote Bush Scrub. Within twenty to fifty years most of the city land will be developed and there will be few, if any, areas within the city, where native flora and fauna can exist in an undisturbed state.

The one exception to this will be Cerro Cosso Community College and lands held in trust for Cerro Coso by the Bureau of Land Management. The City should encourage Cerro Coso and the Bureau of Land Management to maintain these areas as a nature reserve or research natural area.

Development of facilities at the sewer farms on both Ridgecrest and China Lake for bird watching and protection and encouragement of waterfowl is recommended.

2) Because the City has only three of the ten basic wildlife and floral habitats and because the remaining habitats have values for recreation (bird watching, photography, wildflower enjoyment, aesthetic pleasures, views, etc.) the City should support the establishment of natural areas, nature reserves in other lands within and adjacent to Indian Wells Valley and in maintaining prime desert lands in an undisturbed condition. Furthermore, such protected species as the ring tailed cat and legless lizard occur in the habitats.

To this end, the City should cooperate with the Bureau of Land Management to insure that such sites as the El Paso Mountains, Walker Pass and canyons on the east slopes of the Sierras (Indian Wells, Short and Sand), and the Fossil Falls at Little Lake be protected from deteriorating influences. All of these areas possess key wildlife and floral values. In addition the City may wish to look (and should look) farther afield at recreation areas frequently used by Valley residents, ie. Fremont Valley, Panamint Valley and Owens Valley. Many areas such as Surprise Canyon in the Panamint Range, have values such as rare species of plants and animals and unusual habitat associations that are found no where else in the world.

3) The City should encourage county, state, and federal agencies to take measures to protect key desert lands from deterioriation by such activities as intensive sheep grazing and unregulated off-road vehicle use.

4) A recreation master plan for the City and Valley should include preservation of all basic desert habitat types. In addition to preservation, the unique recreational possibilities of the habitat types should be recognized (wildflower enjoyment, educational field trips, views, photography, wildlife observation, camping, picnicing, hiking, etc.) and controlling county, state and federal agencies should be encouraged to protect and develop the areas with these features in mind.

7. NATURAL RESOURCE LANDS

Definition

Natural resource land is land deemed by the legislative body to possess or encompass natural resources, the use or recovery of which can best be realized by restricting the use of the land.

Natural Resource Land Standards

Management policies within the city boundaries shall conform with the most advanced techological method consistent with providing for the health, safety, and welfare of the general public.

Forest Land

These lands produce wood products which are an essential part of the economy. They provide other important multiple use benefits of open-space, range, public and private recreation, watershed, and wilderness. Fragmentation and disorderly development of forest lands jeopardizes proper timber management, fire and erosion control, and scenic values; and also contributes to pollution of water supplies.

Policy

Prime forest land does not exist within the City of Valley; however, the administrators of such lands are encouraged to maintain timber production under multiple use concept. Coordination of management of public and private forest land is essential to the City's interest.

Mineral Production

Land used for mineral production includes that used for oil and gas wells, geothermal power fields, clay, sand and gravel pits, mines, and quarries. Extraction of such minerals is necessary to sustain an industrial economy. However, it is essential that the long range requirements for minerals be balanced against alternative land uses and the environmental impact of such mineral extraction. There is no significant amount of mining being done in the Indian Wells Valley although many mineral claims have been filed and worked in the past.

Policy

Mineral production, both inside and outside the City, should be planned and performed so as to avoid destruction, pollution, or degredation of surrounding land, air, and water resources. After mineral extraction has been completed, land used for mineral production should be reclaimed and restored to its original site condition or improved for other appropriate uses.

APPENDICIES

APPENDIX A

1. CITIZENS AND GOVERNMENT

The crucial part of a meaningful open-space element of any general plan is the interaction of the citizens and government. Citizens and government is a misleading phrase, as it gives the impression these are two separate entities. Although citizens are the government, there seems to be a distinction between citizens in public office and having local, state, and federal government jobs, and those on the "outside" of the government structure. It is a problem of communication if this situation is more imagined than real, but it is a crucial problem of government responsiveness when this situation actually exists.

In general, it was found that many citizens are ill-informed about government, are unaware of where to go for help when they need it, do not know what various agencies do, or how they can make their opinions known. The result is a lack of citizen participation in local government. Those who participate do so only when they want something specific and then exert pressure to have policies established in their interest.

Problems or issues do not respect jurisdictional boundaries. A coordinated approach is needed and regional planning provides that--a framework within which local governments coordinate their activities to provide solutions to problems that extend beyond their individual boundaries. Regional planning's most valuable asset is the resources it has at hand for applying problem-solving techniques to today's complex problems and for providing mechanisms to prevent problems.

For open-space to be preserved, policies have to be established now that will allow growth to occur in an orderly manner with a minimum of conflict. However, a comment frequently heard in this City is, "We don't know what is going to happen, so how can we establish policies now?" This is an attitude of the past that has allowed short-sightedness and narrow vision to develop, resulting in the misuse and eventual destruction of much of our environment and its natural resources. Since patterns of land use accrue from day to day decisions, it is imperative these decision be made within the framework of long-range goals. By establishing policies now, the framework will be provided for achieving the goal of adequate open-space.

APPENDIX B

The Role of the City

The City, in implementing the plan, will use zoning regulations, building setback regulations, subdivision regulations, building codes and health codes. As supplementary material, various other elements of the general plan should be used. These include land use, circulation, housing, conservation, seismic safety, noise, and scenic highway elements. In addition to its use in long-range planning, the plan will be used as a guide in making capital improvements.

The zoning ordinance is the primary means of translating land use proposals into precise land use patterns. The purpose of zoning is to regulate the use of land and buildings and to protect areas of uniform development from incompatible land uses. Lot size and the location of structures are also functions of the zoning ordinance. Substantial tax monies are saved because utilities and other services can be planned and developed in an orderly, efficient manner.

Building setback regulations in specific locations are primarily enforced by means of the Zoning Ordinance, which is used to assist in the implementation of the circulation element of the plan, by requiring that new improvements be set back along roads that eventually will be widened. The ultimate road width required is mapped and subsequent improvements must be built behind future street lines. Substantial tax monies are saved because expensive improvements are not located in areas scheduled for future widening.

A tool which is used to implement both the land use and circulation elements is the Subdivision Ordinance, which sets minimum standards for the division of land into parcels for homes and other uses. These regulations are designed to insure that the future value of sites is not lessened because of unwise land division and design and construction of substandard streets and utilities which the community would subsequently be required to improve at the taxpayers' expense.

Public improvements are investments made by the city and county in facilities which will benefit their residents. The plan relates these improvements to each other and to the area within which they are located.

The Air pollution Control Board's San Joaquin Valley and Southeast Desert Implementation Plans have been developed to assure that the high quality of the air will be maintained. These plans include detailed implementation procedures and standards which should be utilized by all jurisdictions.

The development of a community is never complete; it is a continuing process. If the plans are to be useful and effective, they must be continually maintained and kept up to date. The proposals of the plan, therefore, should not be interpreted as unchangeable, but rather as indicating future proposals which were developed at a given point in time. As new factors evolve and conditions unfold, the plan is to be reviewed and updated. This updating should be undertaken at least every three to five years.

Procedure

A community's commitment to the planning process is measured by its willingness to enact the legislation which will give legal effect to its plans. The foregoing section of the plan deals with roles and responsibilities of local and other agencies. In this section recommended open-space is presented that must be taken to fulfill those responsibilities. It presents firm actions that are to be accomplished by the City agencies responsible for the City program and methods that will be used to accomplish their goals.

Action by City Departments

The conservation, development, and utilization program will continue to develop in accordance with the priorities as follows:

1. Amend, or cause to be amended, zoning ordinances to include open-space.

2. Develop, or cause to be developed, a Parks and Recreation Element and Housing Element of the General Plan of the City of Ridgecrest.

3. Update the Land Use Element of the General Plan.

4. Acquire real property that is essential for the preservation of natural, scenic highway, or historic values and that will become available if not acquired.

5. Acquisition of real proerty and development of facilities for the provision of flood control and waste water disposal.

6. Acquire, protect, and preserve examples of natural and scenic landscape and significant evidence of history.

In order to accomplish this action program, the City will utilize limited general funds, donations of land, state and federal grants.

The City should file applications for matching state and federal grant programs.

The City will continue to meet its responsibilities directly by administrating the local plans and development.

APPENDIX C

METHODS OF PRESERVING OPEN SPACE

Outlined below are some of the various methods of preserving open-space and conservation areas, listed in approximate order of effectiveness and permanency.

1. Acquisition in Fee

Full fee interest in land for open-space preservation may be acquired by purchase, through gifts, or by the process of eminent domain.

a. Purchase and use by a public jurisdiction.

b. Purchase--leaseback. Land is purchased by a public jurisdiction and leased back to the original owner or another party for uses compatible to open-space objectives under conditions that may be stipulated by the public body. Variations could allow, where appropriate, leases for specific lengths of time or in life estate to the original owner.

c. Purchase--saleback. Land is purchased by a public jurisdiction and resold to either the original owner or a third party with certain covenants or less certain rights, such as development rights.

2. Acquisition of Partial Interest

Interests that are less than the fee simple in land include easements, leases, right-of-entry, covenants running with the land, and other "development rights", a term commonly used to indicate a broad range of less-than-fee interests. The purpose of the acquisition of development rights, rather than of the entire fee interests, are to 1) lower the costs of acquisition, 2) keep the land on the tax rolls, 3) permit land to remain in productive use, and 4) retain efficiency of private management.

a. Development Rights. The rights to develop the land to intensive uses are acquired by a public jurisdiction. The land and its use for other purposes remain in private ownership.

4. Leasing

The City might derive revenue from purchased properties.

5. Alternative Tax Sources

a. Real Estate Transfer Tax. A real estate transfer tax, in the form of revenue stamps, is charged when real estate changes hands. The tax rate is determined by the state. The cities in Kern County receive 1/2 of all revenues collected in the cities, with the remainder going to the county. All of the revenues collected in the unincorporated areas of the county, remain in the county.

b. Gasoline Tax. Portions of this fund may be used for landscaping along scenic highways.

6. Federal Funds

a. The Land and Water Conservation Fund is a primary source of federal funds available for the purchase of open-space land on a 50/50 matching fund basis. The administering agency is the Bureau of Outdoor Recreation, Department of the Interior. The fund is often seriously oversubscribed, so promptness of application is a must for early funding consideration.

b. Wildlife Restoration Fund. Administered by the State Wildlife Conservation Board, it provides funds for acquisition, development, and preservation of key wildlife areas.

c. Legacy of Parks Program. The Legacy of Parks program consolidates the Department of Housing and Urban Development, Historic Preservation Program, and the Open Space Land and Urban Beautification Programs. The program provides matching grants to states and local public bodies for up to 50% of the cost for acquiring title or other interests in and developing open-space land; for acquiring, restoring or improving sites, structures or areas of historic or architectural significance; and for public environmental improvements which provide long-term benefits in urban areas. In addition, the program provides grants to states and local public bodies for up to 75% of the cost for

acquiring interest in undeveloped or predominantly undeveloped land which has significance in helping to shape economic and desirable patterns of urban growth. The objectives of the program include: to help curb urban sprawl and prevent the spread of urban blight and deterioration, to encourage more economic and desirable urban development, to assist in preserving areas and properties of historic or architectural value, and to help provide necessary recreational, conservation, and scenic areas. There are innumerable other federal funds available which can be used for costs relating to open-space. Competition for grants is stiff, however, and while making every effort to obtain funds, the City should not count on state and federal programs for implementing its open-space program.

The Federal Government provides a wide variety of loan and grant-in-aid programs to assist state and local governments to meet their recreation and open-space needs.

Most of these programs are assistant programs. In these cases the Federal Government does not plan or build facilities, but merely provided financial aid.

The actual dollar amount that the City can realize from these programs cannot be stated because of the varying range of assistance available under each program; because of the fluctuation in appropriations for each program; and because whatever the appropriation, it is rarely enough to provide funds for every state and local project for which assistance is requested.

The rate at which federal funds will become available for recreation uses is also dependent upon the degree of U. S. involvement in other foreign and domestic activities. While the fact that we live in a world that moves crisis by crisis does not make a growing interest in outdoor activities frivolous, or ample provision for them unworthy of the nation's concern, it does make the magnitude of financial resources that will be available uncertain.

Careful study of federal programs as they are amended over the years and of ways and means of assuring that the City secures maximum benefit from them should be an integral part of the continuing recreation planning program.

7. Private Funds

Private citizens and groups have set up non-profit land banks, or trusts, which are being used in various parts of this country to preserve open-space in perpetuity, without the chance of sale of misuse; something which can occur in City-controlled or owned land. These trusts can be set up to include many of the provisions offered in connection with City acquired rights.

APPENDIX D

MAJOR OBSTACLES TO THE PRESERVATION OF OPEN-SPACE

- Trend in population increase.
- Trend in population distribution
- Prevailing land use practices.
- Trend in industrial development.
- Incidence of urban obsolescence.
- Land use planning.
- Priority and scale of the effort devoted to the urban grants program.
- Economic factors related to public land ownership.
- Apathy of the residents in a community.

Economic Constraints. Economic constraints in the area are characterized by the great cost to the public of capital improvements that would be required should the area be used for intensive urban uses. (These include the costs of improving existing roads or developing new ones and constructing new utilities and public facilities.) Even buildings housing public facilities, such as schools, would be more expensive because of environmental factors and the need to take special and expensive precautions dealing with these. All such public costs are critical because improvements are difficult to provide on a piecemeal basis and require entire systems within the corresponding investment.

Social Constraints. Special constraints in planning the area concern the residents' attitudes. People may be concerned with employment, health, education and income problems rather than open-space and conservation. Indian Wells Valley residents may be apathetic to the preservation of open-space within the City because of the extensive undeveloped lands and sparsely developed subdivisions and lack of encroachment by other urbanized areas.

APPENDIX E

IMPLEMENTATION

Planning needs and concepts change, as human needs themselves change and are more accurately understood. The concept is not new, but planning as it exists today--planning in a formal sense--is new. New, too, are some of the tools of plan implementation, which is the crux of planning.

These tools are many and varied and their development has been consistent with social and economic trends. Cities have general police powers, fiscal powers, the power of eminent domain, proprietary powers, and land use control powers. This element of the general plan is concerned with but one of these tools--the use of the police power to impose certain zoning restrictions on land in favor of the preservation of open-space areas.

The ownership of land is exclusive, but not absolute. This is an established principle regardless of popular myths concerning absolute control and the right to use land as the owner wishes. One may use his property to the exclusion of all others, but he must use it with respect for the rights of others and the limitations imposed by society to protect others' rights. The community retains rights and interest, which constantly change as the society and its needs change. Therefore, land use controls will change. Change is a fundamental law of society and of law itself.

The police power, in its nature indefinable and quickly responsive in the interest of common welfare to changing conditions, authorizes various restrictions upon the use of private property as social and economic changes come. A restriction which years ago would have been intolerable, and would have been thought an unconstitutional restriction of the owner's use of his property, is accepted now without a thought that it invades a private right.

Until recently, the California Legislature failed to require zoning to be in accordance with the general plan. State concern with local planning has been minimal. Section 65563 Government Code, as amended by AB 966, requires that open-space plans and consistent ordinances must be adopted by December 31, 1973. Further, Section 65860 states that:

(a) County or City zoning shall be consistent with the general plan of the county or city by January 1, 1974.

(b) Any resident or property owner within a city or county, as the case may be, may bring an action in the Superior Court to enforce compliance with the provisions of subdivision (a).

The meaning of the works "consistent" within the context of this section is highly ambiguous, the urgency legislation has been introduced (but not "passed") to define the term. In order to clarify the requirement, the Joint Committee on Open-Space Lands will prepare a model open-space zoning ordinance by early 1973.

Forms of Open-Space Zoning and Related Controls - In General

Zoning is one of the major tools of plan implementation. Its purpose is to distinguish various kinds of land use and to allot a specific area relating to open-space. Competition for grants is stiff, however, and while making every effort to obtain funds, the City should not count on state and federal programs for implementing its open-space program.

The Federal Government provides a wide variety of loan and grant-in-aid programs to assist state and local governments to meet their recreation and open-space needs.

Most of these programs are assistance programs. In these cases the Federal Government does not plan or build facilities, but merely provides financial aid.

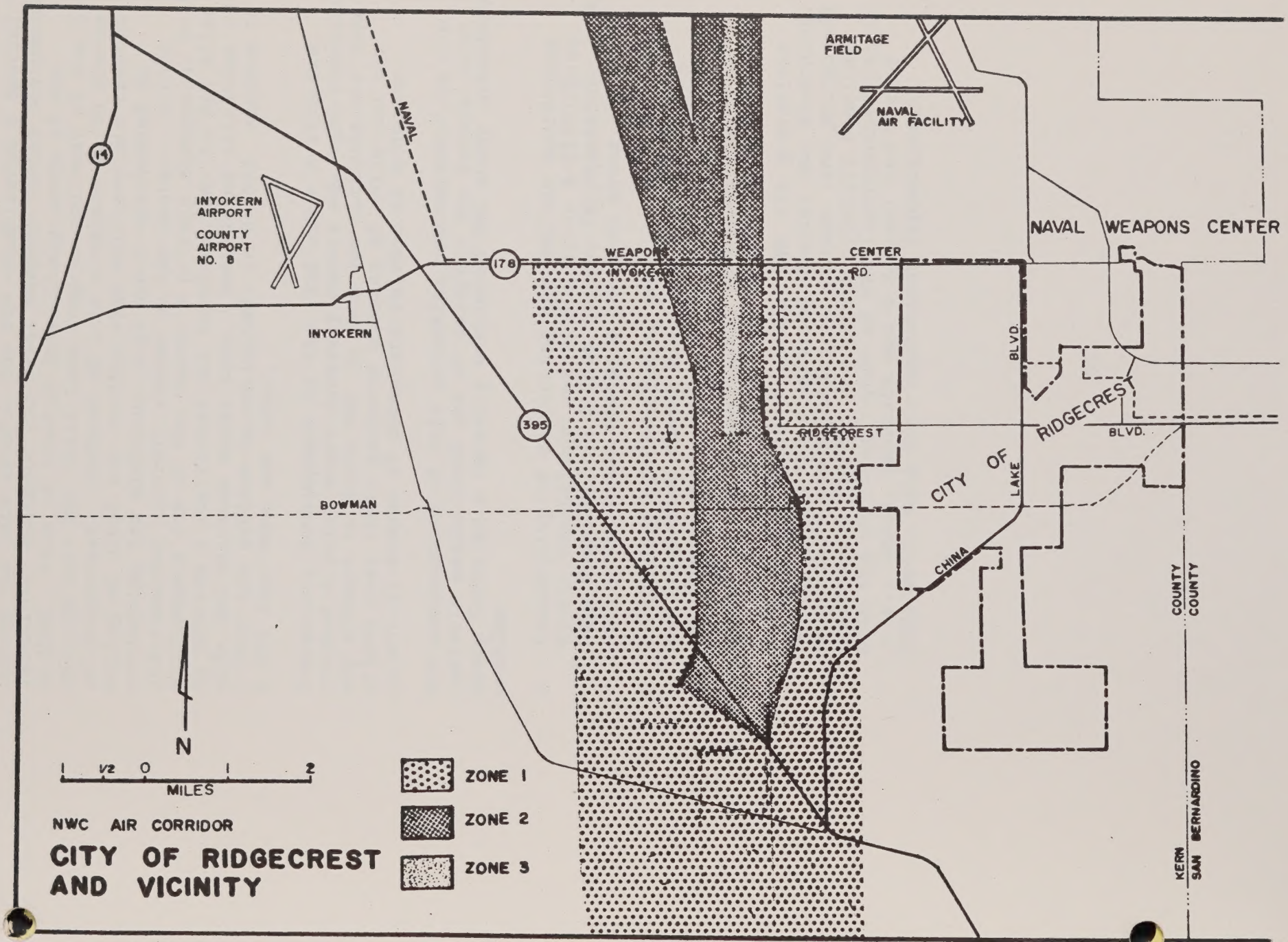
The actual dollar amount that the City can realize from these programs cannot be stated because of the varying range of assistance available under each program; because of the fluctuation in appropriations for each program; and because whatever the appropriation, it is rarely enough to provide funds for every state and local project for which assistance is requested.

The rate at which federal funds will become available for recreation uses is also dependent upon the degree of U.S. involvement in other foreign and domestic activities. While the fact that we live in a world that moves crisis by crisis does not make a growing interest in outdoor activities frivolous, or ample provision for them unworthy of concern, it does make the magnitude of financial resources that will be available uncertain.

Careful study of federal programs as they are amended over the years and of ways and means of assuring that the City secures maximum benefit from them should be an integral part of the continuing recreation planning program.

7. Private Funds

Private citizens and groups have set up non-profit land banks, or trusts, which are being used in various parts of this country to preserve open-space in perpetuity, without the chance of sale or misuse; something which can occur in city-controlled or owned land. These trusts can be set up to include many of the provisions offered in connection with city acquired rights.



NWC AIR CORRIDOR

CITY OF RIDGECREST AND VICINITY

APPENDIX F

AIRCRAFT TEST RANGE APPROACH CORRIDOR R-2506

1. During the late 1950's, the FAA established a special use restricted airspace for Naval Weapons Center designated R-2506. This is located immediately south of the 605,000 acre NWC China Lake complex and west of the City of Ridgecrest. Purpose of this airspace is to prevent mixing of civil air traffic with military air traffic conducting low altitude, high speed approaches to instrumented aircraft ranges on the Center. R-2506 supplements one of the Center's primary airspaces, R-2505, to provide a restricted air corridor that is six miles wide and thirteen miles long. Restricted altitudes in R-2505 are surface to unlimited; in R-2506, surface to 6,000 feet mean sea level.

   Commercial development of the land under R-2506 has reached a point where property owners and land speculators may attempt to force NWC to stop low altitude air operations over their property because of noise and the potential danger of premature release of ordnance.

   The seriousness of this potential encroachment to the Center's established use of airspace was brought into sharp focus by a recently completed NWC study undetaken to examine:

   a. Feasibility of conducting all NWC air operations within established restricted areas R-2505(China Lake Complex) and R-2524 (Mojave "B"/Randsburg Wash) that protect the Center's own land areas.

   b. Feasibility of re-aligning NWC instrumented ranges and relocating target complexes to facilitiate (a) above.

2. The result of the investigation indicated that:

   a. It is not feasible to conduct NWC air operations wholly within these existing special use airspaces. Performance capabilities of current (and projected) operational fighter and attack aircraft together with the existing layout of NWC instrumented ranges (i.e., BAKER, CHARLIER and G Ranges) and target complexes, make such operations impractical.

b. Projected costs for moving or re-aligning NWC instrumented targets and ranges are astronomical. Even if it were finacially acceptable, surveys that led to the present orientation of NWC's targets and ranges clearly indicated that there were no acceptable alternative layouts because of topographical peculiarities of the NWC reservation and lack of suitable alternative sites for targets, instrumentation stations and control facilities.

c. Conducting run-ins from north to south is generally impractical due to the pitch of the terrain north of the instrumented targets.

Current operational planning estimates indicate a significant increase in low-level run-in (100 feet above the terrain), high subsonic (MACH 0.9-0.95 maximum) flights in R-2506. In-flight noise abatement techniques are out of the question in this type of flight profile; yet, the noise level will clearly be unacceptable to persons living under (or relatively near) the R-2506 flight lines serving BAKER and CHARLIE Ranges.

3. Action Taken:

In order to evaluate the noise problem, NWC conducted a noise study test with a private engineering contractor that provided noise level profiles on the ground beneath R-2506 for a variety of aircraft speeds and altitudes.

The Center requested assistance from the Kern County Planning Commission to search ways to prevent encrochment into this airspace, and was refused on the argument that "zoning would amount to confiscation. NWC must purchase the land from the property owners."

4. Proposed Solution:

The study referred to above concluded that the only long term solution is to purchase the land or acquire a restrictive overflight easement beneath R-2506 to prevent commercial and/or residential development. Development of private property has increased and is already the source of many complaints.

Sound studies (NOTE: Composite noise ratios based on 5 aircraft flyovers per day--increase in frequency will widen and lengthen the CNR), indicate a corridor at least 1-1/2 miles on either side of the run-in lines

for the BAKER and CHARLIE Ranges would protect the BAKER and CHARLIE Range approaches. Simultaneously with those for the range approaches, sound studies conducted indicated the Naval Air Facility's primary runway departure route (northeast to southwest) develops critical Composite Noise Ratios (based upon 125 flights per day) over a one-mile central corridor into privately owned lands.

A military construction project has been submitted requesting authority and appropriation for acquisition of the private lands and improvements or restrictive overflight easements within a one-mile corridor now virtually undeveloped. This strip is a minimum requirement for safety reasons.

BIBLIOGRAPHY

GENERAL

Bailey, Harry P. Climate, Vegetation, and Land Use In Southern California, Bulletin 170, Chapter 1. San Francisco; California Division of Mines and Geology, 1954

Bailey, Richard C. Heritage of Kern. Bakersfield; Kern County Historical Society, 1957.

Blackwelder, Eliot. "Pleistocene Lakes and Drainage, Mojave Region", Geomorphic Processes in the Desert, Bulletin 170, Chapter 5. San Francisco; California Division of Mines and Geology, 1954.

China Lake Community. China Lake; Administration Publication 128, Naval Ordnance Test Station, 1966.

California State Water Resources Board, Water resources of California; Bulletin 1, 1951.

Data on Water Wells in Indian Wells Valley Area, United States Department of Interior Geological Survey. Washington, D. C; Government Printing Office, 1963.

Dibblee, T. W., Jr., Aerial Geology of the Western Mojave Desert, California; U. S. Geol. Survey Prof. Paper 522, 1967.

Farnham, D. L. and I. C. Verey. The Weather at NOTS 1964-1963. China Lake, California; Test Department, 1964.

Indian Wells Valley Handbook. China Lake; American Association of University Women, China Lake Branch, 1967.

Knopf, Adolph, A Geologic Reconnaissance of the Inyo Range and the Eastern Slope of the Southern Sierra Nevada, California; U. S. Geol. Survey Prof. Paper 110, 1918.

Moyle, W. R., Jr., Data on Water Wells in Indian Wells Valley Area, Inyo, Kern and San Bernardino Counties, California; California Department Water Resources Bulletin 91-9, 1963.

Short History of the U. S. Naval Ordnance Test Station, China Lake, California. Kern County History Project. China Lake; Code 75201, 1966.

Staley, F. Valene, Indian Wells Valley: The Effects of Military Utilization on a Mojave Desert Basin in California, an unpublished thesis, July 1969.

Tucker, W. S., R. J. Sampson, and G. B. Oakeshott. "Mineral Resources of Kern County", California Journal of Mines and Geology, Vol. 45. San Francisco; California Divison of Mines and Geology, 1949.

Whistler, J. T., Report on Indian Wells Valley and Fremont Valley, California; California Division Water Rights mimeo, rept., 1923.

INTERVIEWS:

Barling, Robert, (NWC Air Corridor), Architect, Public Works, NWC, April 1973.

AGRICULTURE

Bailey, Paul, Report on the Water Supply of Indian Wells Valley, Kern County, California, to the Lands Division Department of Justice; U.S. v. 529, 533 acres of land in the counties of Inyo, Kern, San Bernardino, etc., et al., no. 3472-H civil

Farnham, D. L. and I. C. Verey. The Weather at NOTS 1946 1963. China Lake, California; Test Department, 1964

"Interim Report, Inland Basis Project, Indian Wells Valley and Searles Valley, California" U.S. Department of Interior, Bureau of Reclamation, Boulder City, Nevada, 1966.

Kunkel, Fred and G. H. Chase, Geology and Ground Water in Indian Wells Valley, California, Open File Report, U. S. Department of the Interior Geological Survey, 1969.

Lee, C. H., Ground Water Resources of Indian Wells Valley, California; California State Conserv. Comm. rept., 1973.

Thompson, D. G., The Mojave Desert Region, California, United States Geological Survey, Water Supply Paper 578. Washington, D.C.; Government Printing Office, 1929.

Wilcox, L. V., Hatcher, J. T., and Blair, G. Y., Quality Water in Indian Wells Valley, California; U. S. Dept. Agriculture, Salinity Lab. reserarch rept. 54, 1951.

INTERVIEWS:

1. Austin, Carl, geologist, NWC, March 1973.

2. Fox, Lawrence J., Chairman of the Board of Indian Wells Valley County Water District, June, 1973.

3. Fox, J. Elliott, Ridgecrest City Councilman, June, 1973.

HISTORICAL AND ARCHELOGICAL

Indian Wells Valley Handbook, China Lake; American Association of University Women, China Lake Branch, 1967.

Leadabrand, Russ, A Guidebook to the Mojave Desert of California. Los Angeles; Ward Ritchie Press, 1966.

Lofinch, Sewell, Mojave Desert Ramblings. China Lake, California; Maturango Museum Press. 1966.

Pierson, Erma, Kern's Desert. Bakersfield, California, Kern County Historical Society. 1965.

Robinson, Kenneth, Big and Little Petroglyph Canyons, Quarterly, 5:21, Summer, 1966.

Rodgers, G. J., Exploring Kern County, San Francisco; Fearson Publishers, Inc., 1960.

Romantic Heritage of the Upper Mojave Desert, California Interstate Telephone Company. 1965.

WATER

Banta, R. L., Ground Water Conditions During 1971 in Indian Wells Valley, California, United Stated Department of the Interior Geological Survey, 1972.

Darling and Alsobrook, Naval Weapons Center Community Development Plan and Guide to Comprehensive Planning and Development of the Indian Wells Valley, Los Angeles, 1968.

Interim Report - Inland Basins Projects - Indian Wells and Searles Valleys, California, United Stated Department of the Interior, Bureau of Reclamation, Region 3, Boulder City, Nevada, 1966.

Koehler, J. H., Ground Water Conditions During 1970 in Indian Wells Valley, California, United States Department of the Interior Geological Survey, 1971.

Kunkel, Fred and G. H. Chase, Geology and Ground Water in Indian Wells Valley, California, Open File Report, U. S. Department of the Interior Geo. Survey, 1969.

Kunkel, Fred and G. H. Chase, Geology and Ground Water of the Inyokern Naval Ordinance Test Station and Vicinity, China Lake, California, USGS, 1955.

Mathametical Ground Water Model of Indian Wells Valley, California, United States Department of the Interior Geological Survey, Menlo Park, California, 1971.

Robson and Bloyd, Geology and Ground Water in Indian Wells Valley, California, U S D of I Geological Survey, 1971

Study of Existing Water Usage in Indian Wells Valley; Its Future Development and Future Source of Water Supply as Related to Future Development of USNOTS, Naval Ordinance Test Station, 1950.

Suzuki, Henry, Indian Wells Valley County Water District Implementation of General Plan for 1970-1975, 1972.

Water in the Indian Wells Valley, Indian Wells Valley County Water District.

Zbur, R. T., A Geophysical Investigation of Indian Wells Valley, California, NOTS Technical Paper 2795, 1963.

INTERVIEWS:

1. Austin, Carl,geologist, NWC, China Lake, March 22, 1973.

2. Fox, Lawrence, Director, Indian Wells Valley County Water District, April 26, 1973.

3. Hannon, E. Gordon, Civil Engineer, Public Works, NWC, China Lake, April 20, 1973.

4. McGlothlin, James, Public Relations, NWC, China Lake, March 27, 1973.

5. Pinkerton, Ernest, Manager, Indian Wells Valley County Water District, April 23, 1973.

WILDLIFE

Grinnell, J. and Miller, A. H. The Distribution of the Birds of California. Cooper Ornithological Club. Pacific Coast Avifauna No. 27. Berkeley, California, 1944

Hall, E. R. and Kelson, K. R. The Mammals of North America. Volumes I and II. Ronald Press Company, New York, 1959.

Ingles, L. G. Mammals of the Pacific States. Stanford University Press, Stanford, California, 1965.

Peterson, R. T. A Field Guide to Western Birds. Houghton Mifflin Company, Boston, 1961

Stebbins, R. C. Amphibians and Reptiles of Western North America. McGraw-Hill Book Company, Inc., 1954.

Stebbins, R. C. A Field Guide to Western Reptiles and Amphibians. Houghton Mifflin Company, Boston, 1966

FLORA

Munz, P. A. Supplement to a California Flora. University of California Press, Berkeley and Los Angeles, 1968.

Munz, P. A. and Keck, D. D. A California Flora. University of California Press, Berkeley and Los Angeles, 1959.

Twisselman, E. C. Flora of Kern County, California, University of San Francisco, 1967.

77 02221

Grateful acknowledgement is made to the following groups for their contribution to this plan:

United States Government

Agricultural Department
Army Corps of Engineer
Department of Interior
Bureau of Land Management
Conservation Director
U.S. Fish and Wildlife Service
Outdoor Recreation Resources Review Commission

State of California

Department of Conservation
Department of Fish and Game
Department of Parks
Department of Water Resources
California Regional Water Quality Control Board

County Departments

Board of Trade
Department of Agriculture
Department of Parks and Recreation
Department of Planning
Department of Public Works
Kern County Water Agency

Organizations

California National Area Inventory
Native Plant Society
Nature Conservancy, Tejon Subchapter
Project Land Use
Sierra Club, Kern Kaweah Chapter

U.C. BERKELEY LIBRARIES
C123320655

INSTITUTE OF GOVERNMENTAL STUDIES LIBRARY
109 PHILOSOPHY HALL
UNIVERSITY OF CALIFORNIA
BERKELEY, CA 94720